

PARK DIETZ & ASSOCIATES, INC.

Forensic Experts

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- **Forensic Psychiatry**
- **Forensic Psychology**
- **Forensic Pathology**
- **Forensic Neurology**
- **Forensic Social Work**
- **Child Welfare**
- **Criminology**
- **Security**

Curriculum Vitae R. Ryan Darby

EDUCATION

2007	AB, <i>Cum Laude</i>	Psychology, Neuroscience	Princeton University
2011	MD	Medicine	Vanderbilt University
2016	Certificate	Applied Biostatistics	Harvard University Clinical and Translational Science Center

Postdoctoral Training

2011-2012	Intern	Internal Medicine	Vanderbilt University
2012-2015	Resident	Neurology	MGH/BWH, Harvard Medical School
2015-2017	Sidney R. Baer, Jr. Foundation Clinical Research Fellow	Behavioral Neurology and Neuropsychiatry	Berenson-Allen Center for Noninvasive Brain Stimulation at BIDMC, Harvard Medical School
2015-2017	Clinical Fellow	Behavioral Neurology and Neuropsychiatry	McLean / MGH / BIDMC, Harvard Medical School

Current Licensure and Certification

2017-	Tennessee Medical License
2015-	Diplomate American Board of Neurology and Psychiatry

Academic Appointments

2017-	Assistant Professor	Department of Neurology	Vanderbilt University
2017-	Faculty Affiliate	Bioethics Department	Vanderbilt University
2018-	Senior Faculty	Vanderbilt Brain Institute	Vanderbilt University

Hospital Appointments

2017-	Attending	Department of Neurology	Vanderbilt University Medical Center (VUMC)
2017-	Director	Frontotemporal Dementia Clinic	VUMC

Professional Organizations

2007-	American Medical Association
2008-	International Neuroethics Society
2009-	American Society of Bioethics and Humanities
2010-	American Academy of Neurology
2014-	American Neuropsychiatric Association
2015-	Organization for Human Brain Mapping
2017-	American Neurological Association
2017-	International Society to Advance Alzheimer's Research and Treatment (ISTAART)

PROFESSIONAL ACTIVITIES**Committee Service***Local*

2013-2017	Center for Law, Brain, and Behavior	Massachusetts General Hospital
2014-2017	Neuroethics Committee	Harvard Medical School Department of Bioethics
2016-2018	Committee on Undue Influence	Massachusetts General Hospital / Center for Law, Brain, and Behavior
2017-2019	Committee on Alzheimer's and related dementias PET imaging development	VUMC departments of Neurology, Psychiatry, Medicine, and Radiology
2018-2019	Host, outside speaker series: <i>Seminars in Neuroscience: Brain, Mind, and Society</i>	Vanderbilt Brain Institute

National

2014-2015	Ethics, Law, and Humanities Committee	American Academy of Neurology
2017-	Neuropsychiatric Syndromes Committee	ISTAART / Alzheimer's Association

Editorial Activities*Scientific Journals*

2015-	Ad-Hoc Reviewer	Journal Neuropsychiatry and Clinical Neurosciences
2017-	Ad-Hoc Reviewer	Annals Neurology
2017-	Ad-Hoc Reviewer	Neurohospitalist
2017-	Ad-Hoc Reviewer	Cortex
2017-	Ad-Hoc Reviewer	Journal of Neuropsychology
2017-	Ad-Hoc Reviewer	Social, Cognitive, Affective Neuroscience
2017-	Ad-Hoc Reviewer	Brain
2017-	Ad-Hoc Reviewer	Neuropsychiatric Disease and Treatment

2017-	Ad-Hoc Reviewer	Cognitive and Behavioral Neurology
2017-	Ad-Hoc Reviewer	Experimental Brain Research
2018-	Ad-Hoc Reviewer	Neuropsychologia
2018-	Ad-Hoc Reviewer	Neuropsychology
2018-	Ad-Hoc Reviewer	Neuroimage Clinical
2018-	Ad-Hoc Reviewer	Journal of Neurology
2019-	Ad-Hoc Reviewer	Cognitive Neuropsychiatry
2019-	Ad-Hoc Reviewer	Neurology
2019-	Ad-Hoc Reviewer	Journal of Cognitive, Affective, and Behavioral Neuroscience
2019-	Ad-Hoc Reviewer	New England Journal of Medicine

Scientific Meetings

2018-	Abstract Reviewer	Alzheimer's Association International Conference
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Grants

2019-	Grant submission reviewer	Alzheimer's Association Clinician Scientist Fellowship
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Awards and Honors

2009	Honorable Mention, Helen H. Glaser Student Essay Contest	Alpha Omega Alpha <i>Pharos Journal</i>	\$250 prize
2009	Early Career Scholar	American Society Bioethics and Humanities	\$500 prize
2009	Trainee Abstract Award	Brain Matters: New Directions in Neuroethics Conference	\$1,000 prize
2010	Early Career Scholar	American Society Bioethics and Humanities	\$500 prize
2014	Clinical Ethics Award	American Academy of Neurology	Mentored ethics project
2015	Stanley Cobb Award	Boston Society Neurology and Psychiatry	Best Research Presentation
2016	Stanley Cobb Award	Boston Society Neurology and Psychiatry	Best Research Presentation
2016	Fellow Travel Award	American Academy of Neurology	\$1000 prize
2017	S. Weir Mitchell Award	American Academy of Neurology	Outstanding Young Investigator
2017	Young Investigator Award	American Neuropsychiatry Association	Outstanding Young Investigator
2017	Travel Award	American Neurological Association	\$1000 prize
2017	Poster Award	American Neurological Association	Best Poster Presentation, ANA meeting
2018	New Investigator Award (NIA)	ISAART Neuropsychiatric Syndromes PIA	\$1500 prize from Alzheimer's Association
2018	Loan Repayment Program Award	National Institute Aging	Competitive loan repayment from NIH
2020	Norman Geschwind Prize in Behavioral Neurology	American Academy of Neurology	Recognition of outstanding research in the field of behavioral neurology

2020	Career Development Award	American Neuropsychiatry Association	Outstanding research for junior investigator in neuropsychiatry
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TEACHING ACTIVITIES

Medical School Teaching

2018-	VC3 Dementia Case Faculty Observer	2 hours prep, 4 hours observation /year
2018-	Faculty Affiliate Advisor, Vanderbilt University School of Medicine	Approximately 4 hours / month, advising and mentoring for medical students

Resident Teaching

2013-2017	Neuropsychiatric Diseases Neurology Resident Lecture Series	MGH / BWH 3x one-hour lectures/year
2016-2017	Neurological Diseases Causing Psychosis Psychosis Clinical and Research Group	Massachusetts Mental Health / BIDMC 2x two-hour lecture or case discussions/year
2018-	Frontotemporal Dementia Neurology Resident Lecture Series	Vanderbilt Neurology 1x one-hour lecture/year, 4 hours prep-time

Graduate Teaching

2018-	Legal issues in neurological patients LAW 7420: Law and Neuroscience	1 x 90-minute lectures/year, 4 hours prep-time
2019-	Tau in neurodegenerative disorders NURO 8365. Neurobiology of Disease.	1 x 60 minute lecture / year, 10 hours prep-time
2019-	Network Localization in neuropsychiatry EECE 6358. Quantitative Medical Image Analysis.	1 x 60 minute lecture / year, 4 hours prep-time

Continuing Medical Education

2018	Vanderbilt Contemporary Clinical Neurology Meeting	Hilton Head, SC 5 x 30-minute lectures/year, 10 hour prep-time
2019-	American Academy of Neurology Annual Meeting	Neuroimaging in neurodegenerative disorders. 1 x 30 minute lecture/year, 4 hour prep-time

Clinical Teaching

2017-2019	Inpatient Neurology Attending, General and Consult Services, Vanderbilt University Medical Center	4 wks/year. Supervise team of approximately 4-5 residents and 3-4 medical students, 5-10 admissions/day
2017-	Medical Student Rotator, Behavioral Neurology Clinic, VUMC	Supervise 1 medical student per clinic, approximately 4 hrs/week

2018-2019	Psychiatry Resident Rotator, Behavioral Neurology Clinic, VUMC	Supervise 1 resident per clinic, approximately 4 hrs/week
2019-	Undergraduate Student Rotator, Behavioral Neurology Clinic, VUMC	Shadowed by 1 undergraduate per clinic, approximately 2x /month

Research Supervision

Clinical-Research Fellows

2019-	Isaiah Kletenik (external research mentor)	Behavioral Neurology Fellow, University of Colorado Medical Center
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Graduate Students

2018	Matthias Tholen (6-month visiting rotation)	Graduate Student, Cognitive Neuroscience, University of Salzburg, Austria
2018	Breanna Crane (6-month lab rotation)	Graduate Student, Psychology, Johns Hopkins University

Medical Students

2018	Charles Dawson (Summer research project)	Medical Student, Meharry Medical College
2018	Laura Wang (Research immersion project)	Medical Student, Vanderbilt

Undergraduate Students

2018-	Dana Orlando (Research elective and summer research student)	Undergraduate, Neuroscience major, Vanderbilt University
2019-	Andrew Mullins (Research elective)	Undergraduate, Neuroscience major, Vanderbilt University
2019-	Rohit Kamath (independent research and summer research)	Undergraduate, Neuroscience major, Vanderbilt University
2019-	Yuqi Bian (independent research)	Undergraduate, Neuroscience major, Vanderbilt University

RESEARCH PROGRAM

Funding Information

2015-2017	Sidney R. Baer, Jr. Foundation Fellowship in Neuropsychiatry and Behavioral Neurology Fellowship (\$150,000 total) <i>The use of noninvasive brain stimulation and functional neuroimaging in disorders at the interface of neurology and psychiatry</i>
2017-2020	Alzheimer's Association (\$175,000 total) <i>Neurobiology of Delusions in Alzheimer's Disease</i>
2017-2020	BrightFocus Foundation (\$100,000 total) <i>Neurobiology of Hallucinations in Alzheimer's Disease</i>

- 2018-2020 Vanderbilt Faculty Research Scholars Award (\$110,000 / year)
Neurobiological Factors Associated with Legal Problems in Dementia
- 2018-2020 Loan Repayment Program Award, National Institute Aging (\$70,000 total)
Network dysfunction in dementia-related psychosis
- 2019-2021 Department of Defense Congressionally-directed medical research program (\$340,000 total)
Cognitive and Neural Mechanisms of Impaired Social Decision-Making in Parkinson's Patients Taking Dopamine Agonists

Publications

Peer Reviewed Publications

1. Schneider ER; Rada P; **Darby RD**; Leibowitz SF; Hoebel BG. Orexigenic peptides and alcohol intake: differential effects of orexin, galanin, and ghrelin. *Alcoholism, Clinical and Experimental Research*. 2007 Nov; 31(11): 1858-65.
2. **Darby R**. Ethical Issues in the use of Cognitive Enhancement. *Alpha Omega Alpha Pharos Journal*. 2010 Spring; 73(2): 16-22.
3. **Darby R**. Separating Agency from Deeds in Immoral Neurological Patients: a potential challenge to the ADC model. *American Journal of Bioethics- Neuroscience*. 2014; 5 (4): 25-27.
4. *Bhattacharyya S; ***Darby R**; Berkowitz AL. Antibiotic-induced neurotoxicity. *Current Infectious Disease Reports*. 2014 Dec; 16(12): 448. doi: 10.1007/s11908-014-0448-3.
*contributed equally to work
5. **Darby RR**. and Caplan D. "Cat-gras" delusion: a unique misidentification syndrome and a novel explanation. *Neurocase*. 2016, Apr; 22(2): 251-6. doi: 10.1080/13554794.2015.1136335.
6. **Darby R**. and Prasad S. Lesion-related Delusional Misidentification Syndromes: A Comprehensive Review of Reported Cases. *Journal Neuropsychiatry and Clinical Neurosciences*. 2016 Summer; 28(3): 217-22. doi: 10.1176/appi.neuropsych.15100376.
7. *Bhattacharyya S, ***Darby RR**, Raibagkar P, Gonzalez-Castro L, Berkowitz AL. Antibiotic-Associated Encephalopathy. *Neurology*. 2016 Mar 8; 86(10): 963-71. doi: 10.1212/01.wnl.0000499649.36058.c0.
*Contributed equally to work
8. **Darby, RR**, Edersheim, J, Price, BH. What Frontotemporal Dementia Can Teach Us About Moral Responsibility. *American Journal of Bioethics: Neuroscience*. 2016; 7(4): 193-201.
9. *Stipp E, ***Darby RR**, Bhattacharyya S, Berkowitz AL. Antibiotic-Associated Encephalopathy. *Neurology*. 2016 Sep 13; 87(11): 1188-9. doi: 10.1212/01.wnl.0000499649.36058.c0.
*Contributed equally to work.

10. **Darby RR**, Laganieri S, Pascual-Leone A, Prasad S, Fox MD. Finding the Imposter: Lesions causing delusional misidentifications share unique pattern of brain connectivity. *Brain*. 2017 Feb; 140 (Pt 2): 497-507. doi: 10.1093/brain/aww288. PMID: PMC5278302
11. **Darby RR**, Pascual-Leone A. Moral Enhancement using Noninvasive Brain Stimulation. *Frontiers in Human Neuroscience*, 2017 Feb 22; 11:77. doi: 10.3389/fnhum.2017.00077. PMID: PMC5319982
12. **Darby RR**, Dickerson BC. Dementia, Decision-Making, and Capacity. *Harvard Reviews Psychiatry*. 2017 Nov/Dec; 25(6):270-278. doi: 10.1097/HRP.000000000000163. PMID: PMC5711478
13. Kharal A, **Darby RR**, Cohen A. Envenomation Seizures. *Neurohospitalist*. 2018 Jan;8(1):29-30. doi: 10.1177/1941874417697029
14. **Darby RR**, Brickhouse M, Wolk D, Dickerson BC. Cognitive reserve depends on the semantic and executive demands of the task. *Journal Neurology, Neurosurgery, and Psychiatry*. 2017 0:1-9. doi: 10.1136/jnnp-2017-315719. PMID: PMC5963955
15. **Darby RR**, Fox MD. Reply: Capgras syndrome: neuroanatomical assessment of brain MRI findings in an adolescent patient. *Brain*. 2017 Jul 1; 140(7): e44. doi: 10.1093/brain/awx125.
16. **Darby RR**, Horn A, Cushman F, Fox MD. Lesion network localization of criminal behavior. *Proceedings of the National Academy of Sciences (PNAS)*. 2018 Jan 16; 115(3):601-606. doi: 10.1073/pnas.1706587115. PMID: PMC5776958
17. **Darby RR**. Neuroimaging abnormalities in neurological patients with criminal behavior. *Current Neurology and Neuroscientific Reports*. 2018 Jun 14; 18(8): 47. doi: 10.1007/s11910-018-0853-3.
18. **Darby RR**, Joutsa J, Burke M, Fox MD. Lesion network localization of free will. *Proceedings of the National Academy of Sciences (PNAS)*. 2018 Oct 16; 115(42): 10792-10797. doi: 10.1073/pnas.1814117115. PMID: PMC6196503
19. **Darby RR**, Joutsa J, Fox MD. Network localization of heterogeneous neuroimaging findings. *Brain*. 2019 Jan 1; 142(1):70-79. doi: 10.1093/brain/awy292.
20. **Darby RR**, Fox MD. Reply: Heterogeneous neuroimaging findings, damage propagation and connectivity: An integrative view. *Brain*, 2019 May 1;142(5):e18. doi: 10.1093/brain/awz081.
21. Sellers J, **Darby RR**, Farooque A, Claassen DO. Pimavanserin for psychosis in Parkinson's disease-related disorders: a retrospective chart review. *Drugs and Aging*, 2019 Mar 29. doi: 10.1007/s40266-019-00655-y.
22. Corp DT, Joutsa J, **Darby RR**, Delnooz CC, van de Warrenburg BPC, Cook D, Ren J, Reich MM, Batla A, Bhatia KP, Jinna HA, Liu H, Fox MD. Network localization of cervical dystonia based on causal brain lesions. *Brain*, 2019 Jun 1;142(6):1660-1674. doi: 10.1093/brain/awz112.
23. **Darby RR**. A network-based response to the two-factor theory of delusion formation. *Cognitive Neuropsychiatry*, 2019 Apr 16:1-5. doi: 10.1080/13546805.2019.1606709.

24. Weil RS, Hsu JK, **Darby RR**, Soussand L, Fox MD. Neuroimaging in Parkinson's disease dementia: Connecting the dots. *Brain Communications*, 2019, July 8; 1(1). doi: 10.1093/braincomms/fcz006
25. Ferguson MA, Lim C, Cook D, **Darby RR**, Wu O, Rost NS, Corbetta M, Grafman J, Fox MD. A human memory circuit derived from brain lesions causing amnesia. *Nature Communications*, 2019, Aug. 2, 10(1): 3497. doi: /10.1038/s41467-019-11353-z
26. Padmanabhan JL, Cooke D, Joutsa J, Siddiqi SH, Ferguson M, **Darby RR**, Soussand L, Horn A, Kim NY, Voss JL, Naidech AM. A human depression circuit derived from focal brain lesions. *Biological Psychiatry*. 2019 Nov 15;86(10):749-758. doi: 10.1016/j.biopsych.2019.07.023
27. Snider S, Hsu JK, **Darby RR**, Cooke D, Fischer D, Grafman J, and Fox MD. Cortical lesions causing loss of consciousness are anticorrelated with the dorsal brainstem. *Human Brain Mapping*, 2020 Jan 6. doi: 10.1002/hbm.24892.
28. Fischer CE, Ismail Z, Youakim JM, Creese B, Kumar S, Nuñez N, **Darby RR**, Di Vita A, D'Antonio F, de Lena C, McGeown WJ, Ramit R, Rasmussen J, Bell J, Wang H, Bruneau MA, Panegyres PK, Lanctôt KL, Agüera-Ortiz L, Lyketsos K, Cummings J, Jeste DV, Sano M, Devanand DP, Sweet RA, Ballard C. Revisiting criteria for psychosis in Alzheimer's disease and related dementias- towards better phenotypic classification and biomarker research. *Journal of Alzheimer's Disease*, 2019 Dec 26. doi: 10.3233/JAD-190828.
29. Tetreault AM, Phan T, Orlando D, Lyu I, Kang H, Landman B, **Darby RR**. Network localization of clinical, cognitive, and neuropsychiatric symptoms in Alzheimer's disease. *Brain*. 2020 Mar 16. doi: 10.1093/brain/awaa058.

Book Chapters

1. **Darby, R** and Atri, A. Rapidly Progressive Dementias in *MGH Pocket Neurology*, 2nd Edition, 2016
2. Wagner, E; **Darby, RR**; Taylor, W. "My wife seems different: Initial Evaluation and Management of Frontotemporal Dementia" in *Practical Strategies in Geriatric Mental Health: Cases and Approaches*, forthcoming.
3. Joutsa J, **Darby RR**, Fox MD. Lesion network mapping using resting state functional connectivity MRI. *Lesion to Symptom Mapping: Principles and Tools*, forthcoming.

Presentations

Local

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| 2015 | <i>Transient Global Amnesia</i> / Grand Rounds
Cognitive Neurology Unit, Beth Israel-Deaconess Medical Center |
| 2015 | <i>Genetic Forms of Frontotemporal Dementia</i> / Grand Rounds
Cognitive Neurology Unit, Beth Israel-Deaconess Medical Center |
| 2016 | <i>Corticobasal Syndrome</i> / Grand Rounds
Cognitive Neurology Unit, Beth Israel-Deaconess Medical Center |

- 2016 *Delusional Misidentification Syndromes / Grand Rounds*
Cognitive Neurology Unit, Beth Israel-Deaconess Medical Center
- 2016 *Lesion Network Mapping in Acquired Sociopathy: Towards a neurobiology of criminal behavior.*
Center for Law, Brain, and Behavior, Massachusetts General Hospital
- 2017 *Primary Progressive Aphasia*
Cognitive Neurology Unit, Beth Israel-Deaconess Medical Center
- 2018 *Disconnection syndromes in brain lesion patients with delusions, criminal behavior, and abnormal free will perception*

Cognitive Neuroscience Lecture Series, Vanderbilt University Department of Psychology
- 2019 *Network Localization of Neuropsychiatric Symptoms*

Grand Rounds, Department of Psychiatry, Vanderbilt University Medical Center
- National
2009 *Cognitive Enhancement: The Promise, the Perils, and the Role of Medicine.*
American Society for Bioethics and Humanities Annual Meeting, Washington, DC
- 2010 *Why We Should Use fMRI in the Evaluation of Patients with Disorders of Consciousness*
American Society for Bioethics and Humanities Annual Meeting, San Diego, CA
- 2016 *The Imposter Hiding in the Human Connectome: Neural Correlates of Capgras Syndrome*
American Neuropsychiatric Association Platform Research Presentation, San Diego, CA
- 2016 *Finding the Imposter: Lesion Network Mapping of Delusional Misidentifications*
Grand Rounds, Vanderbilt University Department of Neurology, Nashville, TN
- 2017 *Brain Connectivity of Lesions Causing Delusional Misidentifications*
American Academy of Neurology Annual Meeting, Boston, MA
- 2017 *Network Localization of Disordered Free Will*
American Neurological Association Annual Meeting, San Diego, CA
- 2018 *Network Localization of Disordered Free Will*
American Neuropsychiatry Association Annual Meeting, Boston, MA
- 2018 *Network Localization of Disordered Free Will*
American Academy Neurology Annual Meeting, Los Angeles, CA
- 2018 *Ethics Challenges In Forensic Psychiatry and Neurology: bvFTD and Criminal Responsibility*
American Psychiatry Association Annual Meeting, New York City, NY
- 2019 *Determining When High-Functioning Professionals with Neurocognitive Disorders Are No Longer Fit for Duty: Ethics Considerations*
American Psychiatry Association Annual Meeting, San Francisco, CA

International

- 2009 *From the Armchair to the Bedside: The Future of Cognitive Enhancement*
Brain Matters International Neuroethics Conference, Halifax, Canada
- 2017 *Making a Murder: Do the Clues Lead to Connectivity of Brain Lesions?*
International Neuroethics Network Meeting, Pitié-Salpêtrière Hospital, Paris, France
- 2018 *Dementia, Neuroimaging, and the Law*
International Neuroethics Network Meeting, Pitié-Salpêtrière Hospital, Paris, France
- 2018 *Regulating Synthetic Beings: A Neurologist's Perspective*
Wellcome Trust Center, London, UK
- 2019 *Evaluating Decision-Making Capacity in Neuropsychiatric Patients: Timing Matters*
International Neuroethics Network Meeting, Pitié-Salpêtrière Hospital, Paris, France